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ABSTRACT

The purpose of this document is to encourage collaboration in research and development in postsecondary education through providing increased understanding of the diversity of contributions from professional educational researchers, teachers, librarians, and other school personnel. Emphasis is placed on the role of the educational practitioner, as compared to the professional researcher. Different traditions and practices are described, along with relevant information. Practitioners are presented with examples of various research processes in terms of their stages: planning, investigating, and influencing. Suggestions are made for cross-sector collaborative research, overcoming differing priorities, and bridging various sources of knowledge. (Ranges of skill and expertise enhance the research process and make necessary a type of hybrid or systems-oriented project manager. The result of research inclusiveness is practitioner capacity building and a richer pool of research that benefits education theory.) One figure and two case studies are included. Sidebars list samples of: research projects; needs analyses; specification issues; collaborative initiatives; capacity building programs; and combined resource projects. The bibliography lists 59 references. (AJ)

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ED 471 608

Research report

From idea to impact: a guide to the research process

Building effective research: 1

learning &skills research centre

The purpose of this publication is to encourage collaboration in research and development in post-16 education and training through increased understanding of the diversity of contributions. To achieve this, it describes the different traditions, provides information and sets out ideas.

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Research report

Building effective research: 1
Series editor:
Andrew Morris

From idea to impact:
a guide to the research process

Andrew Morris
Learning and Skills Development Agency

Research report

Building effective research
Series editor:
Andrew Morris

The series is published by the Learning and Skills Research Centre as part of its strategy to increase the effectiveness of research on, and for, the sector. The strategy includes initiatives to develop methods, secure impact and build capacity. The series draws on these three themes, and aims to inform practitioners and policy-makers who make use of research, as well as those who undertake it.

Planned titles

1
From idea to impact:
a guide to the research process
Andrew Morris

2
Quantitative research:
a scoping study for the Learning and Skills Research Centre
Michael Rendall

3
Building research capacity in practice:
the experience of the Learning and Skills Research Network
Lin Norman and Andrew Morris

4
Models of research impact:
a cross-sector review of literature and practice
William Solesbury, Sandra Nutley and Janie Percy-Smith

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This publication has been written for people involved in the planning or execution of research that aims to improve things. A wide range of people working in the learning and skills sector find themselves in this position, either in a local, regional or national context. Some, like research managers in the LSC, for example, focus specifically on research; others, such as teachers, trainers or lecturers, undertake the role from time to time. Many work in the higher education sector, in government departments or for independent research organisations.

It aims to encourage collaboration through increased understanding of the diversity of contributions across post-16 education and training. Greater collaboration and wider engagement are important factors in increasing the effectiveness and influence of research (Davies, Nutley and Smith 2000).

Covering such a wide range of research activity has only been possible because of the contributions of others to the preparation of this publication. Charles Desforges and Geoff Stanton have been important influences on my thinking. Jean Mcdonald of the LSC, Ursula Howard, John Vorhaus and the publications team at the LSDA, and Sara Clay have all offered helpful, critical advice for which I am grateful. They bear no responsibility, however, for the final text and any errors, ambiguities or obscurities that remain in it.

Preface

It has always been important to underpin both policy and practice in educational developments with sound research findings. In a time of great change within the educational landscape, the imperative becomes even stronger. The new research must be relevant, it must engage practitioners as well as professional researchers, it must cross sectoral boundaries and, at the same time, be able to influence and improve both practice and policy formation.

The Learning and Skills Research Centre (LSRC) has been set up, in partnership with the Learning and Skills Council (LSC) and the Department for Education and Skills (DfES), with precisely this remit. It oversees a major series of funded research programmes looking at issues in post-16 learning and teaching, and aims to support a rapidly growing community of researchers and practitioners. The Learning and Skills Development Agency (LSDA), which manages the centre, runs a Learning and Skills Research Network (LSRN), an annual conference for practitioners and researchers, and a journal dedicated to research for the learning and skills sector.

Andrew Morris's work demonstrates persuasively how critical research is to our concerns. It helps us move through the maze of complex and often confusing arrangements and opportunities in this area. It demonstrates clearly how the best research in this field really is informing policy and helping to develop practice, is engaging practitioners at the heart of the research processes, and is working collaboratively.

Without research, our efforts will be, at best, less informed; and at worst, they will be far less effective. Research needs to be accessible and its influence enhanced. This publication shows us how this can happen and is happening. What Andrew has to say is important for all of us in the business of post-16 education and training.

Christine E King

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Summary of key points

The purpose of this publication is to encourage collaboration in research and development in post-16 education and training through increased understanding of the diversity of contributions. To achieve this, it describes the different traditions, provides information and puts forward ideas. Key points are summarised below.

- Greater collaboration and wider engagement are important factors in increasing the effectiveness and influence of research.
- The overall picture of the research effort is one of disconnected pockets of activity, operating at many levels, on widely differing scales, serving a variety of purposes, and drawing on several loosely connected traditions to do so. The complexity of this picture means that there is a lack of coherence in how research is planned. This tends to limit both the quantity and the effectiveness of research for the sector.
- Practitioners such as teachers and trainers, guidance and marketing staff, technicians and librarians all have much to gain from research and much to give, but the disposition of budgets and job responsibilities rarely encourage their active engagement in research.
- For conceptual purposes, it is helpful to describe the research process in terms of a cycle of stages, running from the original idea about an issue through to the impact on behaviour. The stages may be grouped into three broad phases: planning, investigating and influencing.
- Where a research proposal involves cross-sector collaboration, differing approaches to establishing priorities can lead to delay and misunderstanding. This can be minimised by anticipating such differences before embarking on project design.
- The quality of project specification is crucial, and specific steps can be taken to enhance it.
- If different kinds of knowledge are to be drawn upon in conducting an investigation – knowledge drawn from practice as well as from theory, for example – then people with different knowledge backgrounds will need to work together.
- Practitioner participation is important in:
  - identifying relevant research questions
  - advising on sampling or access to research subjects
  - contributing knowledge based on practice
  - interpreting emerging findings
  - elaborating implications of the findings for policy or practice.

- For impact, it is helpful to think through in advance which kinds of people will need to act on the findings, and to find ways in which they can be involved at all stages of the research process.
- Systems and structures that operate throughout the full research process are needed to facilitate the interaction of the various players at different stages. These need to work across the research, development, practice and policy communities.
- The full research process calls for a wider range of skills, knowledge and understanding than a single individual or even institution can normally be expected to provide. It is important to analyse the roles needed and to plan the way they interact.
- The full range of expertise needed to tackle research from the original ideas through to impact will be located in different professions and different institutions. Collaboration is called for between individuals and between organisations.
- The management of collaborative effort requires 'hybrid' managers, who speak the languages of the various parties and are credible to each of them.
- Specific efforts need to be directed at managing the boundaries between phases, institutions or individuals. To achieve this, the capacity of the system will need to be enhanced as well as that of individuals.
- Capacity-building measures need to be extended to practitioners and policy-makers in their role as potential users of research-based evidence.

Research is an ill-defined word. There is little agreement about what it embraces and what it is for. Its central role in decision-making and improvement action is widely discussed, but less widely encountered. In many areas of public life, the persistence of many social and economic problems and the limited impact of interventions suggest that a stronger base of evidence is needed to inform our practices and our strategic decisions. Motorways designed to ease traffic congestion add to it. Housing planned to reduce social distress adds to it. Education intended to enhance achievement adds to social polarisation. Research is looked to for the remedy, but expectations of it can be too high. Each research method has its shortcomings and some problems of practice and policy remain intractable, even after illumination by research. There is more to research than simply the provision of evidence. It also breaks new ground conceptually, probes the future and analyses the current state of things.

This publication focuses on research applied to improvement and discusses this within the context of post 16 education and training, specifically that of the learning and skills sector. It is descriptive rather than analytical, and takes an inclusive approach to the many traditions of research. Its purpose is to help the reader understand his or her own activity in relation to that of others, with a view to encouraging better integration of the various processes within research, development and practical change. Research on evidence-based policy and practice in public service areas such as health care, social care and criminal justice, as well as education, suggests that the development of partnerships between the various users of research enhances the influence of evidence on practice (Davies, Nutley and Smith 2000).

In education, the question of practitioner involvement in the research process was brought to prominence by David Hargreaves in a speech to the Teacher Training Agency (TTA), where he suggested that the results of research are sometimes not worth disseminating, because of insufficient involvement of practitioners in setting the research agenda (Hargreaves 1996). In the FE sector, the regular involvement of practitioners in development activity has led to proposals for a stronger, iterative relationship between development and research (Stanton and Morris 2000).

Within the learning and skills sector as a whole, there are many pockets of research and of development activity that could add up to a significant and influential resource for the sector. They do not yet do so, however, partly because they are not conceptualised and managed as a unified resource for the service. In the field of health care, by contrast, a service-led research and development (R&D) programme has been in existence since 1990, functioning alongside the work of the biomedical sciences research community (NHS R&D Programme 2002).

This publication is intended to help people involved in the planning of research or of development to make sense of the various parts of a complex system. As a first step, it considers types of research already taking place in the learning and skills sector, and the uses to which they are put. It addresses the stages and relationships within a holistic research process. The expectation is that greater understanding of the motives and traditions within the learning and skills research community will lead on to more effective research.

Section 2

Research in post-16 education and training

Diversity of traditions

Research in the post-16 sector has become more prominent in recent years, but activity of various kinds has been undertaken on further education, work-based training and adult and community learning for many decades. Some of it takes learning provision as its subject and applies academic research approaches to it. In this tradition, the learning and skills sector is seen as a field of study for discipline-based research, usually conducted by universities. Many disciplines are involved, ranging from education itself, through sociology, psychology, philosophy, history and economics, to management and information sciences, among others.

Other research is undertaken within organisations that provide education and training. This also varies widely in kind, from analysis of participation, achievement and progression, through evaluation of curriculum innovations, to subject-based research in catering management or social care, for example. Many researchers in this tradition are practitioners, temporarily seconded (or not!) from their primary responsibilities. They may see themselves explicitly in a research role, perhaps pursuing a higher degree; or they may see themselves as improving their own practice through action research, development work or reflective study.

A third tradition, associated with the LSC, and formerly the training and enterprise councils (TECs), focuses on studies of the labour market, employers' needs and other aspects of economic development. Much of this work takes the form of perception surveys and statistical analyses, and is undertaken on a contractual basis by research suppliers.

A fourth tradition involves national bodies undertaking projects often linked to policy initiatives or emerging practical priorities. The National Institute for Adult and Continuing Education (NIACE), the LSDA, the National Foundation for Educational Research (NFER) and others respond to research needs expressed by government, regional bodies, local authorities and provider organisations, but they also generate research priorities themselves. Statutory organisations, such as government departments and the Qualifications and Curriculum Authority (QCA), also undertake research, partly in-house and partly through external commissioning. Independent organisations such as the major awarding bodies and 'thinktanks' also undertake research as part of their overall activity.

The overall picture of this research effort is one of disconnected pockets of activity, operating at many levels, on widely differing scales, serving a variety of purposes and drawing on several loosely connected traditions to do so. The complexity of this picture leads to confusion about the nature of research in the sector and a lack of coherence in how it is planned. This tends to limit both the quantity and the effectiveness of research for the sector.

This publication seeks to clarify the nature and purposes of this effort and to set out some ideas about how it might be developed. It focuses particularly on the kind of research that aims to inform policy or improve practice. Other kinds of research (for example, research intended to develop a body of knowledge, or which simply looks at data for its own sake) are also important, but will not be considered in detail here.

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Variety of uses

Research within these disparate traditions is organised in different ways to serve different purposes. Not surprisingly, the uses to which it is put also vary.

In the tradition associated with *academic institutions*, some research is designed to deepen understanding of issues and concepts, and some to extend the body of knowledge and theory. Its usefulness is primarily judged by the extent to which it does this, and such judgements are made largely by peers within the research community. Methods of assessing quality also emphasise peer judgement. The outcome of the research, the processes involved and the experiences of the researcher in undertaking it are of interest primarily to other researchers; they may or may not be of value to, or useable by, others. This distinction is illustrated by the perception that publication by academics in the practitioner press is not strongly encouraged (Hillage *et al.* 1998).

Research within *provider organisations and national bodies*, such as LSDA, the Sector Skills Development Agency (SSDA), the Association of Colleges (AoC) and the trades unions, addresses issues of direct concern to practitioners or policy-makers. Projects may be purely research-based, such as a study of learner perceptions; or they may combine elements of research with development activity, such as a study leading to the production of guidance materials. This work is used to help practitioners enhance their work and to influence the detailed development and implementation of policy. Its value is judged largely on its uptake by users, or its effectiveness as perceived by its sponsors.

Research previously commissioned by TECs, and currently by *local Learning and Skills Councils (LSCs)*, links the concerns of the employer or economic community with those of education and training. It is used to influence the provision of training opportunities that enhance local economic and social development. The value of such research is gauged largely by the extent to which it enables its users – employers and training providers – to enhance their mutual development.

Despite this diversity of uses for research, there remains in the world of practice a relatively low level of demand for, or even awareness of, research (Hillage *et al.* 1998). Its outcomes are rarely drawn upon, few practitioners engage with it, and institutional budgets rarely allow for the exploitation of it. In principle, practitioners – teachers and trainers, guidance and marketing staff, technicians and librarians – all have much to gain from research and also much to give, but the disposition of their budgets and job responsibilities rarely encourage it. Some initiatives have been launched, however, that do seek to alter this: notably, the ESRC Teaching and Learning Research Programme (TLRP 2002b); the LSDA Learning and Skills Research Network (LSRN 2002b); and the Teacher Training Agency's Research and Evidence-Informed Practice Initiative (TTA 2002).

Research projects designed for practical use, reported in the *Learning and Skills Research* journal (formerly *College Research*)

- FE curricula and the Science Museum: survey of existing Science Museum resources for post-16 science education. *Science Museum, London*
- Development of a tool to help FE colleges evaluate their use of information and learning technologies. *Open University*
- Closing the achievement gap: clarifying the relative influence on student achievement of demographic factors, with guidance on effective strategies to raise achievement. *LSDA*
- Why do engineering companies choose NVQs for training? Why don't they? *Broxtowe College, Nottingham*
- Measuring further education's impact on regional economies: a snapshot of the actual expenditure impact of Aberdeen College on the economies of the Grampian Region. *University of Strathclyde*
- Strategies for improving retention in colleges in Wales. *FE Research Network in Wales*
- Learning in the workplace: analysis of evidence about development of knowledge and skills in employment. *University of Sussex*

Research for practice

Practitioners in some professions, such as nursing, engage with research-based evidence as part of their professional formation. The practice of teaching, in contrast, is relatively little informed by research based evidence (Hillage *et al.* 1998). Nevertheless, there are instructive examples of ways in which research evidence can be used to influence practice, either directly by addressing practitioners, or indirectly, through policies and procedures that affect them.

There are areas in which we might expect to see research-based evidence used to improve practice. In the strategic planning of local provision, for example, evidence might be drawn from studies of mergers and acquisitions, local population flows, or labour market trends. Institutional strategic plans might draw on learner satisfaction studies or analyses of the strengths and weaknesses of different kinds of provision. The decision-making process itself might draw on lessons of good practice in management, leadership and governance.

In the area of market analysis, evidence about those who are engaged in learning (and, more particularly, those who are not) is important in education and training, just as knowledge of customers is important in other sectors. Much can be learned about courses and how they are promoted and delivered from research into why learners stay or leave (McGivney 1996), what motivates and inhibits learning outside the place of study (Bates, Wilson and Yeomans 2002), and from analyses of trends in enrolment and retention.

In the area of guidance and learning support, a growing body of evidence is available on what approaches work for different client groups (Martinez 2001) and how learners themselves perceive the process (Bloomer and Hodkinson 1999). Pedagogic practice, an area that has been relatively neglected hitherto in post-16 learning, has recently become the subject of a major ESRC research programme (TLRP 2002b).

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Research for policy

Policy is developed and implemented at several levels. Locally, provider institutions do so at both corporate level, for example, in relation to marketing or equal opportunities; and at course-team level, for example, in relation to teaching approaches. Regionally, key social and economic policy issues, such as the demand for skills and the planning of specialist vocational provision, are addressed. Nationally, governments of all complexions have made regular policy interventions in education and training, for example, in relation to the number and kinds of people participating and their relative success.

The link between the requirements of policy-makers and the efforts of the research community has been relatively weak, however. The reason for this is contested. Those whose task it is to develop policy wish for research that provides more definitive evidence, written in accessible language, to help them make practical choices. In 2000, the Secretary of State for Education and Employment, David Blunkett, complained of a lack of good, well-founded evidence arising from research (DfEE 2000). At the same time, those who carry out research call upon the user community to 'show a capacity and willingness to engage with researchers and to modify practices in the light of well-founded and persuasive research' (NERF 2000b).

Typical consequences of this weak link have been:

- an evidence base that is not widely understood or accessed
- national initiatives launched with inadequate trialling and testing
- insufficient research that exploits the data gathered on learners and institutions
- research planned too hurriedly to allow for comparison of effects across trial groups.

Despite this, there are specific examples of ways in which research and policy-making can interact more effectively. At the institutional level, research on patterns of achievement in relation to deprivation indices (Davies and Rudden 2000) has been made possible through use of the data gathered for funding purposes by the FEFC (now LSC) in its Individualised Student Record (now Learner Record). Evidence from this is useful for learning providers developing policy on quality improvement and widening participation.

An example at national level is given opposite. At the international level, organisations such as the European Centre for the Development of Vocational Training (CEDEFOP) and the Organisation for European Cooperation and Development (OECD) are creating syntheses of research findings that draw out implications for policy development. For Europe, CEDEFOP publishes periodic analyses of key issues in vocational education and training (VET) and lifelong learning, drawing on experience in member states (CEDEFOP 2002). Globally, the OECD (2002) publishes comparative analyses of statistics on participation and achievement in member states. In the USA, the National Research Council has brought together research findings from educators, psychologists, sociologists and neuroscientists on the process of learning, and has synthesised them for use by policy-makers and practitioners (Bransford, Brown and Cocking 2000).

Research and policy interaction

One example at national level is the work of the Centre for Research on the Wider Benefits of Learning, a government-funded centre investigating the relationship between learning and life outcomes such as health and employment. Set up by government as part of a strategy to concentrate research funding and activity into centres, the centre has devised ways of bringing together practitioners, researchers and policy-makers. A large advisory forum involves practitioner representatives in discussion of conceptual issues; research priorities are discussed with policy officials; and an open seminar series involves all groups with the interpretation of emerging findings. A combination of expertise in statistical modelling, mining of longitudinal data sets, literature review and in-depth biographical interview provides outcomes, some of them influenced the shape and scale of policy initiatives (Leman 2001). Another example is the ongoing work of the Joseph Rowntree Foundation which encourages interaction between research and policy-making in the area of social deprivation (Lewis 2001).

Research in education – recent developments

Beyond the learning and skills sector, research in education as a whole has been the subject of critical analysis in recent years. The DfEE report *Research into schooling* (Hillage *et al.* 1998) highlighted weaknesses in the quality and coverage of educational research. It recommended, among other things, the formation of a National Educational Research Forum (NERF) to advise on research strategy. This forum was established in 1999 and created working parties to look into:

- identifying priorities
- quality of research
- research funding
- impact of research on policy and practice
- building research capacity.

These included not only researchers from different sectors, but also representatives of those who make use of research. *Research and development for education: a national strategy consultation paper* (NERF 2000c) draws on the work of these working parties to recommend greater collaboration in the conduct of research, and greater involvement of users in setting priorities and securing impact. It also calls for further measures to build the capacity to carry out research.

Research into schooling (Hillage *et al.* 1998) also called for the creation of national research centres. Several have since been set up (NERF 2002a). In contrast with short-term projects, these centres represent a concentration of resources in a small number of leading research teams, funded for several years at a time. They are carrying out sets of linked projects and bringing researchers, practitioners and policy-makers together to develop research priorities (Down 2001).

Another government research centre is experimenting with secondary research, by developing reviews of evidence on a given topic. The Evidence for Policy and Practice Information and Coordinating Centre (EPPI Centre) invites the active involvement of research users in assessing the quality of research reports for inclusion in systematic reviews (EPPI 2002). Here again, the question of usefulness for policy-makers and practitioners is emphasised. The techniques under development at the EPPI Centre are modelled on those used in similar research synthesis schemes in health care. An example of a systematic review in this field, 'Getting evidence into practice' is of particular relevance to education (NHS Centre for Reviews and Dissemination 1999). The establishment of such a centre has led to considerable debate, particularly regarding assumptions about the nature of research (Oakley 2001).

The largest-ever programme of research into teaching and learning was launched in 1999 by the ESRC – the UK's main national funding body for research into education. An initial review of reviews of research revealed strengths and weakness in the national research effort (TLRP 2002b). The programme called for projects aimed at direct impact on learner attainment. Collaborative work between disciplines and across sectors was also to be fostered (TLRP 2002c).

DfES research centres as at November 2002

- The Centre for Research on the Wider Benefits of Learning
- The Centre for the Economics of Education
- National Research Centre for ICT in Education, Training and Employment
- National Research and Development Centre for Adult Literacy and Numeracy.

Other relevant centres include:

- Evidence for Policy and Practice Information and Coordinating Centre
- Learning and Skills Research Centre.

On the ground, practitioners and researchers are being encouraged to work together through networks and projects. The Learning and Skills Research Network in each region of England and in Wales (LSRN 2002b), the Scottish Further Education Unit (SFEU 2002) and the Teacher Training Agency in the schools sector (TTA 2002) have organised structures to make this happen. The major four-year project 'Transforming Learning Cultures in FE' within the ESRC Teaching and Learning Research Programme also brings together researchers and teachers based in colleges with researchers in universities (TLRP 2002b).

Some common threads can be discerned in these broad initiatives – among them, the expectation that research will have a greater impact on policy and practice. Achieving this is seen to depend, among other things, on the inclusion of users at various stages in research. Exactly who the users might be, and what roles they might play, will begin to emerge if, and when, evidence-based policy and practice takes off. To help us understand the ways in which different parties might most effectively contribute to an integrated research process, we next look in more detail at its stages.

Conclusion

The present state of the system appears to be one of several relatively discrete areas of activity, operating relatively independently of one another. Would better connections between the wide range of groups within the communities of policy, practice and research lead to research that is more effective and exerts greater influence? Evidence from other public service areas both within and beyond education suggests that they would (Davies, Nutley and Smith 2000).

Section 3 The stages of research

The cycle

For conceptual purposes, it is helpful to describe the research process in terms of a cycle of stages, running from the original idea about an issue through to the ultimate impact of research and development on behaviour and thinking. The stages may be grouped into three broad phases: planning, investigating and influencing (see Figure 1).

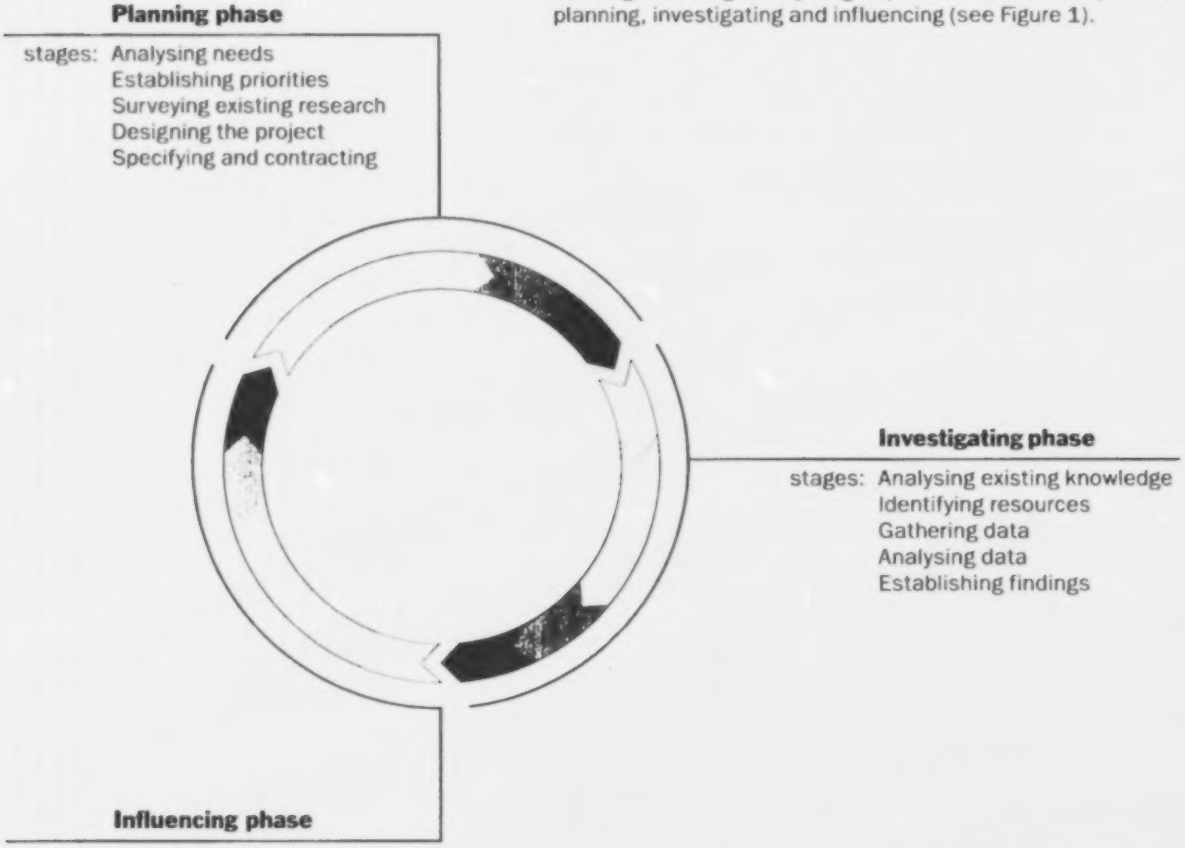

Figure 1
The research process

Activities such as gathering and analysing data, exploring concepts or conducting trials are grouped together as a central 'investigating' phase. Before investigative activity can begin, however, a number of important but less visible steps will have had to be taken to identify the research issue, fund the area of work and select the person or team to carry it out. In the diagram this is called the 'planning' phase. Equally, steps might follow or run in parallel with the central investigative activity, that enable the research to exert influence. These are referred to in the diagram as the 'influencing' phase.

Within each phase of the research cycle, we can describe a number of stages (see Figure 1). Each of these is discussed below. In reality, these stages are not clear-cut, nor should they be. They may overlap, run in parallel or be integrated into a continuous, evolving process. Even where activities can be organised in stages, they do not necessarily follow one another sequentially. However, the diagram reminds us of the possible elements of an integrated research process so that when framing a proposal, for example, we might identify those that are relevant and determine the emphasis to be given to each at different times.

Examples of needs analysis

- The DfES research programme, for example, is assembled through consultation between ministers, policy and analytical officials, and representatives of the external research community.
- The LSC identifies needs through consultation with staff in the local LSCs and central office, and through consultations with provider organisations.
- The LSDA consults organisations representing teachers, learners, institutions and subject areas, as well as the policy-making and research communities.
- In the higher education sector, ESRC identifies research priorities through its research priorities board, made up of leading academics and representatives from the non-academic user community.
- The Higher Education Funding Council for England (HEFCE) organises funding for research according to a quality assessment exercise, the Research Assessment Exercise (RAE), which allocates funds according to a range of criteria, including the 'research activeness' of staff and the quality of previous research publications.
- Charitable foundations, such as the Nuffield Foundation (Nuffield Foundation 2002), the Joseph Rowntree Foundation (JRF 2002), the Esmee Fairbairn Foundation (Esmee Fairbairn Foundation 2002) and the Leverhulme Trust (Leverhulme 2002) establish research priorities in individual ways, often influenced by the wishes of the original benefactor. They sometimes use committees that involve internal staff and experts in the field as well as trustees.
- Colleges and other learning and skills providers frequently identify needs pragmatically, in relation to felt need within the operational cycle of the institution, and priorities determined by national initiatives and policies.

Planning phase

Needs analysis

Some kind of analysis of needs is often undertaken to establish what kinds of research are thought to be necessary.

In general, analysis of research needs is difficult even within a single organisation; across the sector as a whole, it is even harder. Those involved in practice are not accustomed to articulating the problems they confront in terms of research questions, nor are researchers alone able to characterise the issues that practitioners or policy-makers face. Efforts to develop coherence between different kinds of funding organisation, whether charitable bodies, government departments or independent agencies, run into a further set of problems – differing attitudes, purposes and timescales for planning. Notwithstanding these difficulties, much is to be gained from attempts to coordinate the work of research funders. At a national level, the National Education Research Forum has made a start through its Research Funders' Forum, which brings together a wide range of public and charitable research funding organisations (NERF 2002b).

At the regional level, Regional Development Agencies (RDAs) and groups of local LSCs are also setting about this task in relation to strategies for promoting learning and for economic development. Learning partnerships address similar issues at the local level.

Establishing priorities

The level of demand for research, however it is assessed, will inevitably exceed the resources available. Broad priorities have to be established and choices made. Useful criteria for doing this can be identified by asking:

- is research the most appropriate way of tackling the issue of concern?
- are the outcomes of the proposed research more needed than others?
- are the outcomes achievable within the resources available?

The second and third of these are general criteria, familiar in any field, but the first is particularly important in research and is easily overlooked. A research need may be expressed initially simply as a reflection of a troublesome problem in practice, rather than as a suitable case for research. For some issues, management action or political lobbying may offer a better way of tackling the problem, and in these cases research reports may simply gather dust on shelves.

Priorities are established in quite different ways in the different research traditions. National organisations close to the statutory apparatus, such as QCA, DfES and LSC, attach considerable weight to the policy relevance of the issue, and to the usefulness of the potential outcomes of research. In market-driven organisations, priority must also be given to the business potential of the research, in terms of either profitability or market positioning. In universities, consideration of targets for the HEFCE RAE and the scientific criteria for ESRC funding, as well as potential for publication and reputation among the peer community, weigh in the balance. Provider organisations, typically with little funding earmarked for research, may prioritise research that is likely to increase student numbers or is linked to the professional development of staff. The LSC and RDAs may organise research that helps to fulfil their mission or implement a specific strategy.

Where a research proposal involves cross-sector collaboration, the differing approaches to establishing priorities can lead to delay and misunderstanding. This can be minimised by anticipating such differences before embarking on project design. Whatever approach is chosen, an explicit and transparent process for determining priorities helps to gain support from both researchers and users for the priorities ultimately selected.

Specifying the research

The way research is specified also varies across the different traditions. The differences need to be understood if people working in the different traditions are to be able to collaborate effectively.

In the learning and skills world, research is usually specified in relation to a desired outcome for practice or policy. The LSC, for example, plans research to identify skill shortages in the workforce, or to understand employer attitudes to training issues. A formal brief is drawn up, and organisations are invited to compete for a contract. Colleges, on the other hand, might organise research to understand which groups are not represented in college, or what factors lead to dissatisfaction or drop-out from courses. The work may be specified as an internal project, or commissioned externally, or built into the daily practice of a management information or marketing team.

National bodies linked to government plan their research to develop and to evaluate interventions. The QCA, for example, commissioned research to model an overarching certificate for Level 3 achievement. The LSC organises research on aspects of its funding methodology. Research of this kind, associated as it is with public organisations and their missions, requires detailed and transparent specification in terms of aims, objectives, methods and outcomes.

Research in higher education institutions is funded by HEFCE, in accordance with its RAE; by the ESRC; and by a variety of EU, charitable and commercial sources. Specification may require a thorough analysis of the proposed research in relation to existing knowledge, and involve a degree of interaction between the researcher and funder to arrive at a project design that meets the requirements of both parties.

Common issues of specification

- High-quality research needs careful planning in advance.
- The purpose of research, whether expressed in terms of practical effect, or of increased understanding, needs to be clarified and explicitly stated at the outset.
- The *nature* of the outcomes needs to be anticipated in the planning phase, so that the research design is capable of achieving them.
- The key questions being addressed need to be honed, so that the research is focused, disciplined and capable of producing an outcome.
- The aims and objectives of a project or study need to be refined carefully, involving all parties to the work, so that its potential value and viability can be assessed in advance.
- The rationale for doing the work needs to be spelled out and agreed between all parties, especially in relation to the existing bodies of knowledge and pre-existing or concurrent research elsewhere.
- The potential influence of the research, both through its processes, but particularly through its outcomes, needs to be anticipated so that measures to secure it can be designed in from the outset.

In relation to purposes, research funded within the academic community may be specified so that it builds on and adds to existing theoretical understanding. The researchers themselves (and their peers), as experts in the field, are likely to shape a proposal, perhaps within a theme area determined by the funder. Research funded by policy-linked bodies is likely to be specified more closely by the funder, in terms of objectives and outcomes, while the researcher proposes the approach to be taken.

Despite such differences in purpose and role, some underlying issues of specification are common to many traditions.

Investigating phase

Design

The basis upon which research is designed varies according to the situation. Sometimes the method is predetermined because the designer or sponsor specialises in a particular method. For example, some research is conducted using perception studies because the sponsoring organisation does questionnaire surveys. In other cases, the method is determined by the range of skills available in a given organisation. Statistical analysis, for example, may not be within the capacity of a team. However, where there is a choice of method – for example, in the specification drawn up by a research funder – consideration can be given to choosing and adapting the method most appropriate for the job. Design of research orientated toward policy or practice often usefully starts by focusing on the issue to be addressed or the problem to be tackled. If that can be sufficiently defined, it may be possible to envisage the kind of outcome the research should aim to bring about – guidance materials for practitioners, or an assessment of the implications of policy options, for example. This may inform the choice of method.

A wide range of approaches – involving, for example, interview, questionnaire surveys, biographical study, statistical analysis, observation, photographic and diary recording – are all commonly used in the sector. The merits and drawbacks of particular methods are dealt with extensively in the literature. Some useful introductory texts are given in the References section (Bell 1993; Wilkinson 2000).

An issue of particular importance here is the combination of methods. Quantitative and qualitative approaches are sometimes wrongly counterposed, when a judicious mix of the two might yield a more rounded view of issues of practical concern. A salient example is the work of the Centre for Research on the Wider Benefits of Learning, which combines analysis of the national birth cohort studies (longitudinal studies of a sample of people born in a given year) with systematic analysis of in-depth interviews with adults in the community (WBoL 2002). The experience at this centre, as elsewhere, is that statistical data is important in demonstrating trends and pointing up relationships between factors for which a record exists (such as attainment at school and subsequent success in the labour market); however, it is limited by its lack of finer explanatory detail. Conversely, data drawn from the lives of individuals is rich in such detail, but yields generalisable conclusions less easily. For addressing issues of policy and practice, using a combination of research methods is often advisable.

Collaborative initiatives

- 'Transforming learning cultures in FE' is a large-scale project funded under Phase II of the ESRC Teaching and Learning Research Programme (TLRP). It is conducted through teams in four locations across England that include both college-based and university-based researchers as well as front-line teachers. Sixteen contrasting sites of learning are being studied over 3 years using a mix of methods (TLC 2002).
- A major project, 'The FE college and its communities' involved a collaboration between researchers at the University of Warwick and staff in 10 surrounding colleges. A variety of linked work packages on staff perceptions, employer perceptions, analyses of literature and statistical data analysed the changing sense of community surrounding colleges (Merrill 2000).
- Collaborative research projects have been designed and conducted by regional groups of the Learning and Skills Research Network. These involve local design of small-scale collaborative projects related to broad national priority areas. Researchers from provider organisations within the learning and skills sector work with university-based colleagues and representatives from other local and regional organisations such as local LSCs (LSDA 2001).
- The Teacher Training Agency has developed local networks of teacher-researchers linked to researchers based in higher education to undertake small-scale collaborative research (TTA 2002).

In each of these examples, an explicit programme of professional development has been organised to accompany the research activity, linked intimately to the research activity itself.

Teamworking

If a combination of methods is to be used to throw light on an issue, it is likely that different research specialists will need to work together. If, in addition, different forms of knowledge are to be drawn upon in conducting an investigation – knowledge drawn from practice as well as from theory, for example – then people with different knowledge backgrounds will also need to work together. The nature of the questions being addressed and the outcomes required may well call for a research *team*. The team may be virtual (a set of individuals communicating via e-mail) or physical (people meeting together).

But teamworking of this kind also presents difficulties. Where the research partners are from quite different sectors, difficulties are likely to flow from the differing motives, cultures and incentives within their distinct sectors, as well as from more general problems of coordination and communication.

The many examples of collaborative research in the learning and skills sector suggest that a clear sense of the distinct role to be played by each party is essential and that these need to be established explicitly at the outset. Such distinct roles might include, for example, refining the research questions, gathering data, applying analytical techniques and interpreting the analysis. Examples of ways of dealing with these problems have been highlighted by initiatives designed specifically to encourage collaborative research.

Gathering and analysing data

An investigative process generally involves deciding on a prescribed field of enquiry, drawing on relevant knowledge or information in some form and analysing it. The words 'knowledge' and 'information' are used here to include ideas and concepts drawn from writing and discussion as well as data derived, for example, from interviews, questionnaires, observations or statistical studies. Techniques for gathering and analysing data are discussed extensively in the literature on research methods (Bell 1993; Wilkinson 2000). There are also opportunities to study such techniques in research methods modules on HE courses, or through the R&D Toolkit sessions organised by the Learning and Skills Research Network (R&D Toolkit 2000). They will therefore not be discussed here.

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Influencing phase

Concern is expressed by all parties to the process – practitioners, policy-makers and researchers – about the way in which research influences practice and policy. Some refer to its relative lack of influence (DfEE 2000), some to what happens in practice (Hodkinson 2001), some to its conceptual basis (Kanefsky 2001) and others to the ways in which research works in other sectors (Davies, Nutley and Smith 2000).

For the kind of research addressed here, it is assumed that maximum influence is wanted, although it is possible for one piece of research evidence to be overly influential in relation to a conflicting one. In general terms, however, for research findings to influence policy or practice, specific measures will be called for; rarely does research simply get picked up and acted upon. Fortunately, some studies of the process of research 'impact' have been made, many in sectors outside education. For example, the NHS R&D programme identified 20 areas for research on implementing research findings (NHS R&D Programme 1995), including:

- how practitioners change their practice in the light of evidence
- the role of local research implementation and development projects
- the role of CPD in promoting the implementation of research findings.

Rogers' work on the way that innovation diffuses, cited by Kanefsky (2001), identifies the key roles of change agents and opinion formers. Other studies address conflicts for policy-makers between the findings of disciplined enquiry and other sources of information (Kogan and Henkel 2000).

Much of the evidence suggests that the representative users of research findings need to participate from the outset, and throughout the subsequent stages of the research process (Davies, Nutley and Smith 2000; Bransford, Brown and Cocking 2000).

As indicated in the preceding paragraphs, their participation might take place in the stages of:

- identifying relevant research questions
- advising on sampling or access to research subjects
- contributing knowledge based on practice
- interpreting emerging findings
- elaborating the implications of findings for policy or practice.

The active engagement of users of research in appropriate stages of the research process contributes to both a sense of ownership among the user community and enhancement of the quality and applicability of research outcomes. The sense of ownership may be crucial in determining whether the research evidence is ultimately used in practice. For research planners wishing to develop a strategy for impact, it is helpful to think through in advance which kinds of people will need to act on its findings, and find ways to involve them at the stages identified above.

Other ways of enhancing impact involve giving attention to publications and to event planning. Publications from a single project can be developed in several formats for different readerships – full reports for peer researchers, practical guides for practitioners, and concise, relevant briefings for managers. The worldwide web provides particular opportunities for research to be reported in accessible and interactive formats. Research information and knowledge can be organised in layered formats so that original documents as well as summaries and abstracts may be reached through hotlinks. An example is the DfES research website (DfES 2002).

Passive dissemination events such as conferences, though valuable for communications within the research communities, have limited impact on institutional managers and other key practitioner groups. However, an active link between research outcomes and subsequent development activity can achieve greater impact through the direct engagement of practitioner-developers with research findings. A number of initiatives in the learning and skills sector have involved the use of practitioner-based development projects that draw on research findings, which themselves raise important questions for further research (Reisenberger and Stanton 2002).

In the interpretation stage, knowledge drawn from practitioners may be important in the 'transformation' of research findings. This process, described by Desforges (2000), combines two kinds of knowledge: the contextual understanding developed by experienced and reflective practitioners, and the more generalised findings of systematic research. Understanding drawn from practice, though not necessarily generalisable or capable of validation, may provide important clues as to how to interpret findings in ways that will make sense to other practitioners. This influence may prove helpful in creating research outcomes that are relevant and applicable.

An example of the process of combining knowledge from practice and research, drawn from work for the DfES commissioned by the Social Exclusion Unit in 2001, involved investigating ways that public agencies could help young people who are neither in education, employment nor training. The work involved practitioners in community-based organisations working with a research team to identify principles and practices. An outline of this work is given in the box on page 21.

Having conceptualised some of the stages in the research process, and some ways of transforming knowledge to enhance its influence, we next consider some of the implications for people working on the ground.

Section 4 Working together

Roles

In the various stages of the full process indicated in Figure 1 on page 9, contributions are called for from many different kinds of professional. Those identified with the investigative phase include discipline specialists – social scientists, management scientists, historians, anthropologists, for example; and specialists in methods – statistics, surveying, market research, qualitative analysis, for example. These may be associated with higher education institutions, independent research institutes, colleges, work-based or community-based providers, local LSCs, or charities, or they may operate independently as freelancers.

Other kinds of professional play key roles in the planning and influencing phases, particularly several kinds of practitioner. In the post-16 sector, these include teachers, trainers and lecturers, guidance and counselling staff, library and information specialists, marketing and MIS people, as well as those managing teams, services and institutions. Likewise, issues relating to policy need to involve policy strategists, developers and advisers, as well as those who implement it. Their knowledge, drawn from practical experience, needs to inform the identification of key priorities for research, the specification of research questions related to practical problems, and the interpretation of findings. Without this kind of knowledge, research runs the risk of being directed to less important areas, of producing less useful outcomes, or of being poorly timed in relation to the delivery of teaching and learning. In short, it risks being less likely to influence actual behaviour.

Mediators

Practitioners and policy-makers are not always in a position to influence research agendas unaided. They are not likely to be familiar with a full range of research methods, or to be in a position to judge the manageability or applicability of research approaches. Equally, professional researchers may lack understanding of the environments of practice or policy formation in which the research outcomes might be put to use. Systems and structures that operate throughout the whole cycle are needed to facilitate the interaction of the various players at different stages. Such structures need to mediate between the research, development, practice and policy communities, and to provide, for each community, basic knowledge about the others. Various kinds of 'hybrid' professional play essential roles in this mediation (Stanton and Morris 2000) in their roles as officers in national bodies such as the LSDA, QCA and DfES, as managers in colleges and other providing institutions, and as freelance consultants.

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Communicators

In the impact stages, a range of communication specialists is needed. Where this contribution is neglected or undervalued, there is a risk to the impact that the research findings will have on practice or policy. The skills of writers, editors, graphic artists and web designers are crucial in creating publications that are effective in encouraging readers to alter their outlook or practice. Conference managers and training managers, staff developers and human resource professionals are key to influencing practice within organisations. Their skills and expertise are needed in the process of interfacing research findings with practical systems, procedures, attitudes and behaviours. Marketing experts are needed to enable messages to be targeted and distributed effectively to those who need to hear them. Managers or team leaders at all levels may be crucial in connecting everyday practice to sources of evidence.

Integration

The contributions of the various participants will vary throughout the stages of the cycle (see Figure 1 on page 9). Editors may figure prominently in the impact stage, social scientists in the analysis and teachers in the identification of problems, but some influence of each of these specialists needs to be felt throughout the whole cycle. The art of influencing opinion or procedure needs to be borne in mind at the design stage; the limitations of particular research methods at the impact stage. But to ensure that these influences are felt throughout the cycle of research, the concept of the whole cycle needs to be shared and partnerships managed so that all phases of the cycle interact with each other. Frequently, the phases are not recognised as part of a single whole, are not therefore connected, and the links are not managed. As a result, much research does not achieve the impact it might deserve, and much practice remains untouched by the evidence available from research.

Responsibilities

The full cycle of research calls for a wider range of skills, knowledge and understanding than a single individual or even institution can normally be expected to provide. This is why it is important to analyse the roles needed and to plan the way they interact. A symphony orchestra uses a conductor to bring coherence to its collaborative effort, but no such single role exists, or could be imagined, for research. Neither the policy, the research, nor the practice communities could take sole responsibility for coordinating research, without risking either its intellectual independence or its practical applicability. To achieve a more integrated research process requires linking the responsibilities of the research community for quality and rigour with that of the other communities for delivering public benefit and spending public money wisely.

At the national level, the recently created National Educational Research Forum (NERF) aims to encourage greater coherence within communities and to develop better connections between them. The effect of the forum's work, however weak or strong, depends on national consensus and will be felt only gradually. Are there complementary ways in which organisations and individuals on the ground can develop connections in the meantime? Can they extend themselves beyond their immediate areas of activity? Can we expect, for example, a company training manager to read and interpret salient research in her field; an academic researcher to organise multiple interpretations of his findings for policy officers, college managers and teachers; an editor to develop novel formats for communicating research findings to practitioners?

Such extensions of responsibility can be readily visualised, but they are less easy to carry out in practice. Most professionals work in well-defined roles, often with prescribed job descriptions – and always under pressure! Even where there is a will, it may be difficult for people to extend their range of activities to connect with those of other communities. There are undoubtedly ways in which individual people and organisations can develop connections, but changes are also needed at system level to fund such interactions.

Collaboration

To link together more effectively, the various participants in the research process need a better understanding of each other's contributions, and better means of collaborating. The full range of expertise needed to tackle research from original ideas through to impact will be located in different professions and different institutions. Collaboration is called for between individuals and between organisations. Such collaboration – for example, between universities and schools or colleges – flourished in the field of curriculum development in the 1960s and 1970s and through the Technical and Vocational Education Initiative (TVEI) in the 1980s. In recent years, a number of research initiatives have encouraged collaboration. Some of these are outlined in the box on page 13.

Experience suggests, however, that in practice, collaborative working presents new problems. In particular, extra resources are required to bring the parties together to understand each other better, and to set up effective communications among the parties to coordinate planning, budgeting, implementation and monitoring. Budget holders have to justify these extra resources in terms of the enhanced usefulness or validity of the research findings. In addition, the management of collaborative effort requires 'hybrid' managers, who speak the languages of the various parties and are credible to each of them. Perhaps this new breed of manager, working across traditional boundaries, will be a feature of the new forms of research designed explicitly to make a difference to practice or policy.

The world of learning and skills research involves a particular diversity of institutions: universities, colleges, work-based and community-based providers, government departments and agencies, RDAs, local LSCs and a host of private, public and voluntary sector bodies engaging in various forms of consultancy, research and development. Quite distinct incentives drive each of them, and their primary purposes differ. This means different perspectives are at work when individuals sit round a table to organise collaborative work, and clashes of interest easily arise.

For example, academic researchers may be driven to develop their subject-based knowledge through research and to prioritise its publication in the academic press because they are rewarded for doing this. A college manager may be more concerned that the research delivers valid and useful recommendations in time for course delivery in September. A regional policy official may require the research to develop advice in time to inform a skills planning strategy.

Differences of interest will affect the purpose, design, methods, timescale, budget allocations, analysis, interpretation and reporting of the research. Quite a catalogue of operational difficulties! However, given the importance of research evidence in tackling pressing problems, the need to integrate these interests is overwhelming. The importance of expert 'hybrid' managers to navigate projects through these difficulties is clear. Research does not stand alone in this regard. Collaboration between institutions is also called for in planning local provision, attracting new learners and developing the workforce. Research may be usefully added to the list of reasons for which institutions need to collaborate.

In summary, the development of more effective relationships between the various players in the full process requires specific efforts directed at managing the boundaries between phases, institutions or individuals. To achieve this, the capacity of the system will need to develop in specific ways.

Section 5 Making it happen

An integrated scheme of research

In a recent case affecting the learning and skills sector, the government Social Exclusion Unit (SEU) undertook a large-scale consultation exercise with many community practitioner groups. This led to a comprehensive analysis and report, *Bridging the gap* (Social Exclusion Unit 1999) in which specific recommendations were made for improvement action. Policy officials at the SEU entered into discussion with research designers at the LSDA about following up proposals for a set of principles for health, social services, youth, training and educational agencies on working with disaffected young people. The brief was to develop a set of principles that could be used to influence the way funds were distributed, the way quality was inspected and the way practitioners working with disadvantaged young people actually worked. An integrated approach was adopted, involving end-users, to maximise impact.

Researchers worked with professionals from key national agencies, and managers of case study schemes, to identify, test and refine a framework of success factors for effective working with disadvantaged young people. A survey of young people provided an additional test. Throughout the study, feedback was sought from a panel of advisers from a range of organisations with specialist expertise. The outcome was a practical instrument – a table of key principles and associated characteristics of good practice, with a supporting statement about professional values.

The next stage, putting this instrument to use, involved examining the implications of implementing the principles, and formulating recommendations, drawing on consultations with DfEE (now DfES) policy officers. Three publications were produced. An executive summary with recommendations was issued for strategic decision-makers. Practical guidelines, suitable for use in a variety of settings, were prepared for those working with young people (Marken and Taylor 2001). A full research report was published for the research and policy communities. Five regional events to disseminate the findings to practitioners were organised in partnership with the National Youth Agency and with financial support from government. A follow-up meeting with DfES policy officers reviewed research–policy links.

To make an integrated scheme of research (planning-investigating-influencing) happen is not easy in practice! There are, however, some instructive examples.

The question is how to encourage this degree of integration at the macro level. How can the capacity be developed on a larger scale within systems and cultures? To explore this question further, clarity is needed on the concept of research 'capacity'.

Building capacity

A recent report for the ESRC Teaching and Learning Research Programme (McIntyre and McIntyre 1999) points to the fact that even if national research spending were to be increased, research effectiveness might still be impaired by shortfalls in particular areas of skills, knowledge and understanding. McIntyre and McIntyre state, in relation to research into teaching and learning:

Capacity is not constrained by any lack of individual or institutional motivation for research ... A greater constraint is the lack of sufficiently developed research expertise among a large proportion of the people concerned. It is through finding ways of developing that expertise that research capacity of this kind can probably most effectively be enhanced.

They go on to suggest, for the TLRP, that:

Both current capacity and possibilities for enhancement are likely to lie mainly in close research partnerships between schools [sic] *and university departments of education or other educational research organisations. It is through contributing to understanding of the possibilities for such partnerships and for researching schools, and of their implications, that the Programme could probably do most to enhance research capacity of this kind.*

What is said above for schools applies equally to all providers in the learning and skills sector. In response to these problems, the TLRP has set up a capacity-building network, which supports the work of programme researchers and others more widely (TLRP 2002a).

But what is meant by capacity? McIntyre and McIntyre (1999) refer to the numbers of people involved and the sum and nature of their expertise, all of which are important. In the heterogeneous learning and skills sector, development of the capacity of the system within which people work is also a priority. This issue is discussed in the report of the capacity-building working group of the National Education Research Forum (NERF 2000a).

A system that embraces the planning and influencing aspects of research, as well as its investigative aspects, calls for capacity-building measures additional to the methodological training of researchers. In particular, it calls for measures aimed at:

- improving the quality of activity in the planning and influencing, as well as the investigating phases (see Figure 1 on page 9)
- enhancing the management of interfaces between the stages illustrated in Figure 1 on page 9.

The following are some of the areas of activity where the capacity of the system needs to be enhanced.

In the **planning phase**:

- *establishing research priorities*: good practice in consultation between providers and users of evidence needs to be shared
- *refining new research questions*: practitioner-developers need to be engaged more consistently and deeply in the identification of research questions, especially those thrown up by development work
- *specification of projects*: professional development is needed for people who write project specifications, particularly those for whom it is an occasional task
- *secondary activity*: project designers need greater understanding of the options for development work that builds on primary research by adapting it for use in specific communities of practice.

In the **influencing phase**:

- *linking research with development*: ways need to be found of exploiting research evidence by interpreting it with practitioners involved in development projects
- *publication formats*: parallel publications designed specifically for different readerships – practitioners, strategic decision-makers and researchers – require the combined expertise of communications specialists and researchers
- *developing useful evidence*: decision-makers in policy and practice need to be brought together with researchers to find workable ways of making use of evidence.

Building capacity at system level

- The NERF has established a Research Funders' Forum to address, among other things, ways of establishing research priorities.
- The ESRC is placing increasing emphasis on the dissemination of research findings through accessible publications and conferences (ESRC 2002).
- The LSDA has set up a Learning and Skills Research Network, which brings together people from different sectors and engages them in conferences, nationally and regionally, and in regional projects and training (LSRN 2002b).
- The ESRC Teaching and Learning Research Programme is running a specific capacity-building programme (TLRP 2002a) and has commissioned a large study of practice in FE colleges that involves college-based and university-based researchers (TLC 2002).
- The Teacher Training Agency has funded a programme of teacher-led research (transferred in 2002 to a consortium of the DfES, the General Teaching Council and the National College for School Leadership) (TTA 2002).
- Some colleges and groups of providers are creating research teams or units or committees to enhance their internal research activity (City College Norwich 2002; York College 2002).

At the national level, a range of initiatives is addressing some of these issues.

With the national climate favourable to such changes, much now depends on how effectively regional and local organisations take up the capacity-building agenda.

Currently these important initiatives focus on the development of the skills, knowledge and understanding of both full-time researchers and practitioner researchers. A next step will be to extend capacity-building measures to practitioners and policy-makers in their role as potential users of research-based evidence. This would demand a new form of capacity-building measure, linked directly to the issues that drive these communities, such as improving quality, attracting learners and developing people, and the processes of drawing on evidence in addressing them (Bransford, Brown and Cocking 2000; Davies, Nutley and Smith 2000).

Funding

Funding for capacity building in the wider sense is unlikely to come entirely through traditional channels. Funding for educational research through the higher education funding councils' Research Assessment Exercise depends both on the global government allocation to the research councils and on the grading of education relative to other disciplines within the RAE (Bassey 2002). Limited resources have been made available through ESRC, DfES and TTA programmes and fellowships, but to sustain improvements more will need to be found from within the learning and skills sector. It is difficult to estimate what proportion of total public education expenditure is actually spent on research and development. It is even more difficult to estimate what it should be.

Research into schooling (Hillage *et al.* 1998) cites an OECD estimate in 1991/2 that 0.27% of total education expenditure was allocated to research in a sample of six OECD countries, and suggests that the proportion could be even lower for the UK. The providers of learning, considered for this purpose as large businesses, have to judge what proportion of their turnover should be reserved for R&D. To some extent, funds allocated for staff development, curriculum development and marketing, for example, might be conceptualised in terms of support for interlinked R&D. Within such budgets, some allocation will need to be earmarked for capacity building, to enhance the effectiveness of the research and development. Collaborative ventures, involving several providers pooling their resources, might multiply this. Projects run by regional groups of the LRSN offer examples of such joint approaches.

LSRN projects using combined resources

The LSRN has regional groups in the regions of England and in Wales, which organise research projects. The following examples combined resources from several organisations.

- *North West region*: funded by five local LSCs and LSDA, with contributions in kind from nine colleges and local education authorities (LEAs). The project addressed learners' perceptions of their progress and achievement in literacy and numeracy. The steering group included the regional Adult Basic Skills Strategy Group, local LSCs, the Workers' Educational Association (WEA) and a university in the region.
- *East Midlands region*: funded by five local LSCs and LSDA, with contributions in kind from four colleges. The project addressed the perceptions about provision for 14–16 year olds in non-school learning environments.

Further information is available on the website (LSRN 2002a).

Approaches to building up capacity vary between sectors and organisations. For some, it involves on-the-job training for people participating in projects; for others, bursaries to support higher degree study. Although this diversity will give rise to tensions within the system, it is important that the research community as a whole does not exhaust its energies on internecine battles. Collectively, the sector needs to attract greater resources for research. These may come partly from lobbying for a greater share of the limited educational research resource, partly from a shift in favour of R&D when local budgets are set, and partly from increased spending on educational R&D nationally – a pitiful £50–60m per year, according to Hegarty (1999). Vital roles are played in helping to achieve this collective gain by bodies that bring together the research community – regional intelligence units (or 'observatories'), special interest groups of the British Educational Research Association (BERA 2002), NERF and the LSRN, for example.

Section 6 Conclusion

If people involved in the planning of research or development are able to make sense of the various parts of a complex system, their greater understanding of the motives and traditions within it will lead to more effective research. This will be partly achieved through the effort of individuals and individual organisations, but to a larger extent through growth in collaborative activity. Collaboration in R&D is not in itself new – an established literature and examples of current practice stand before us. What is new is to apply these to the realities of a newly unified sector embracing an unprecedented degree of diversity, and called upon to confront the major economic and social challenges of the day.

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